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In collaboration with
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Analytics: The Widening Divide

How companies are achieving competitive advantage through analytics

By David Kiron, Rebecca Shockley, Nina Kruschwitz, Glenn Finch and Dr. Michael Haydock

ABOUT THE AUTHORS

DAVID KIRON is the Executive Editor of Innovation Hubs at *MIT Sloan Management Review*, which brings ideas from the world of thinkers to the executives and managers who use them to build businesses. He can be reached at *dkiron@mit.edu*.

REBECCA SHOCKLEY is the Business Analytics and Optimization Global Lead for the IBM Institute for Business Value, where she conducts fact-based research on the topic of business analytics to develop thought leadership for senior executives. She can be reached at *rshock@us.ibm.com*.

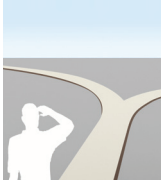
NINA KRUSCHWITZ is an editor and the Special Projects Manager at *MIT Sloan Management Review*, where she coordinates the publication's innovation hub activities. She can be reached at *ninakru@mit.edu*.

GLENN FINCH is the Managing Partner for North America for IBM Global Business Services' Business Analytics and Optimization practice, where he works with global business leaders to transform their organization into analytically-driven organizations. He can be reached at *glenn.f.finch@us.ibm.com*.

DR. MICHAEL HAYDOCK is the Chief Scientist for IBM Global Business Services' Business Analytics and Optimization practice, where he works with global clients to develop advanced analytic solutions that deliver business value by enabling organizations to better understand and interact with customers. He can be reached at *mhaydock@us.ibm.com*.

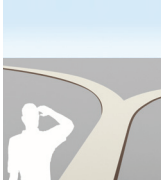
CONTRIBUTORS

Fred Balboni, Global Leader, Business Analytics and Optimization, IBM Global Business Services
Deborah Kasdan, Writer, Strategic Communications, IBM Global Business Services
Christine Kinser, Strategic Programs Global Leader Communications, IBM Global Business Services
David Laverty, Vice President Marketing, IBM Software Group (Information Management)
Eric Lesser, Research Director, North America, IBM Institute for Business Value, IBM Global Business Services
Mychelle Mollot, Vice President Marketing, IBM Software Group (Business Analytics)
Katharyn White, Vice President Marketing, IBM Global Business Services



CONTENTS

RESEARCH REPORT
FALL 2011



Analytics: The Widening Divide

How companies are achieving competitive advantage through analytics

In this second joint MIT Sloan Management Review *and IBM Institute for Business Value study, we see a growing divide between those companies that, on one side, see the value of business analytics and are transforming themselves to take advantage of these newfound opportunities, and, on the other, that have yet to embrace them. Using insights gathered from more than 4,500 managers and executives,* Analytics: The Widening Divide *identifies three key competencies that enable organizations to build competitive advantage using analytics. Further, the study identifies two distinct paths that organizations travel while gaining analytic sophistication, and provides recommendations to accelerate organizations on their own paths to analytic transformation.*

Analytics:
The use of data and related insights developed through applied analytics disciplines (for example, statistical, contextual, quantitative, predictive, cognitive and other models) to drive fact-based planning, decisions, execution, management, measurement and learning. Analytics may be descriptive, predictive or prescriptive.

In 1997, a computer named Deep Blue defeated Garry Kasparov, the world chess champion at the time. In 2011, another computer, Watson, competed and won against former champions of *Jeopardy!*, the popular U.S. television quiz show. Both events changed perceptions about what computers could do. Deep Blue demonstrated the power of new parallel processing technology, and Watson showed that computers can understand ordinary language to meet the challenges of the "real world."

In computer science terms, *Jeopardy!* is much harder than chess. Whereas Deep Blue used specialized computer chips to calculate outcomes of possible chess moves, Watson answered unpredictable questions put forward in peculiarly human speech patterns. Today, almost any computer can scan a database to match structured queries with answers. In contrast, Watson was able to "read" through a massive body of human knowledge in the form of encyclopedias, reports, newspapers, books and more. It evaluated evidence analytically, hypothesized responses and calculated confidence levels for each possibility. It offered up, in a matter of seconds, the one response with the highest probability of being correct. And it did all that faster and more accurately than its world-class human opponents.

New analytical tools for making decisions, such as Watson, are bringing about entirely new opportunities. With the digitization of world commerce, the emergence of big data and the advance of analytical technologies, organizations have extraordinary opportunities to differentiate themselves through analytics. The majority of organizations have seized these opportunities, according

About the Research

To continue to deepen our understanding of the challenges and opportunities associated with the use of business analytics, for the second year in a row the *MIT Sloan Management Review*, in partnership with the IBM Institute for Business Value, conducted a global survey of more than 4,500 business executives, managers and analysts from organizations located around the world. This marks a 50% increase in the number of respondents, broadening our analysis to include individuals in more than 120 countries representing more than 30 industries, and involving organizations of a variety of sizes. The sample was drawn from different sources, including MIT alumni, *MIT Sloan Management Review* subscribers, IBM clients and other interested parties.

In addition to these survey results, we also interviewed academic experts and subject matter experts from a number of industries and disciplines. Their insights contributed to a richer understanding of the data, and the development of recommendations that respond to strategic and tactical questions senior executives address as they operationalize analytics within their organizations. We also drew upon IBM case studies to further illustrate how organizations are already using business analytics as a competitive asset.

to this study, "Analytics: The Widening Divide," by the *MIT Sloan Management Review* and the IBM Institute for Business Value. Fifty-eight percent of organizations now apply analytics to create a competitive advantage within their markets or industries, up from 37% just one year ago (see Figure 1).[1] Significantly, these same organizations are more than twice as likely to substantially outperform their peers. To understand *how* organizations are using *analytics* today, we surveyed more than 4,500 executives, managers and analysts from more than 120 countries.

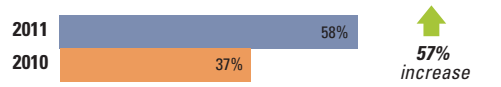
Our initial joint study in 2010 identified three progressive levels of analytical sophistication: Aspirational, Experienced and Transformed (see Figure 2).[2] Year-to-year comparisons of these groups reveal that Experienced and Transformed organizations are expanding their capabilities and raising their expectations of what analytics can do, while the Aspirational organizations are falling behind. This growing gap has major implications for businesses seeking to make the best possible decisions based on a flood of insight arising from the interconnected world.

We closely examined what the Transformed organizations, the most sophisticated users of analytics, are doing well and found three key competencies: (1) information management, (2) analytics skills and tools, and (3) data-oriented culture. Mastering these competencies enables organizations to gain full benefit from analytics.

We also found, however, that organizations take one of two different paths to achieving analytics sophistication. Each path is comprised of a different mix of competencies, so organizations choose the best route to follow based on their strengths and circumstances. The chosen path influences their overall approach to analytics, the kinds of projects they pursue — and the steps they will need to take to achieve full analytical prowess.

The Gap is Widening

The growing gap between Transformed and Experienced groups, on the one hand, and the Aspirational group, on the other, is evident on two fronts: using analytics to create competitive advantage, and integrating analytics into strategy and operations.



Percentage who rated as "substantial" or "significant" (4 or 5 on a five-point scale) the level that information and analytics is able to create a competitive advantage for their organization within their industry or market

FIGURE 1: Creating a Competitive Advantage
The ability of organizations to create a competitive advantage with analytics has surged in the past 12 months.

Among all respondents, the number of companies using analytics to create a competitive advantage has surged by 57% in the past year. Yet all of the gains in competitive advantage have been made by the Transformed and Experienced groups, which grew by 23% and 66%, respectively, from 2010 to 2011. The Aspirational segment, by contrast, fell 5% behind during the same period (see Figure 3).

The widening divide between organizations is also evident in the use of analytics to inform core business strategy and day-to-day operations. Fully 70% of the Transformed and 55% of the Experienced groups say they have increased their use of information and analytics in their business strategy and operations in the past 12 months. Only 34% of the Aspirational group has done so (see Figure 4).

Transformed Organizations Use Analytics More Widely

Financial and operational activities have historically been data-driven, and are typically the first areas where analytics is adopted.[3] A majority of organizations affirmed they rely on data and analytics to manage financial forecasting, annual budget allocations, supply chain optimization and streamlining operations. Among Aspirational and Transformed organizations alike, these were the four areas where leaders rely on analytics to make decisions (see case study sidebar, "McKesson: Efficiency at Scale").

By comparison, analytics is less frequently relied upon for decisions involving customers, business strategy and human resources. On average, fewer than one-quarter of Aspirational organizations said

they rely primarily on data and analytics to make key decisions in these areas, compared to one-half of Transformed organizations (see Figure 5).

Transformed Organizations Leave Others Behind

Today's business environment is characterized by increasing uncertainty and competition. At the same time, customer loyalty is eroding. All of this, and more, makes it very difficult for organizations to gain lasting benefits unless analytics is applied broadly. A piecemeal approach to analytics adoption misses the opportunity to link supply chains to customer channels, for example, or financial forecasts to more precise resource planning.

Most organizations are expanding their use of analytics beyond finance and operations. However, the Transformed group has set the pace and has already distinguished itself in the marketplace. Overall, organizations that used analytics for competitive advantage were 2.2 times more likely to substantially outperform their industry peers. Transformed organizations in that group were 3.4 times more likely to do so.

While Transformed organizations use analytics broadly across the organization, their business objectives are highly focused. Using an analytical technique called *binning*, we found that Transformed organizations are concentrating on three critical areas that span the enterprise: speed of decision making, managing enterprise risk and understanding customers.

Moving Faster with Analytics

Big data, and the fast pace and complexity of today's marketplace, require that leaders make decisions faster than ever before. Nearly 7 out of 10 CEOs interviewed for the IBM Global CEO Study 2010 told us that they already face unprecedented uncertainty and volatility — and are expecting more ahead.[4] We found that Transformed organizations keenly appreciate the value of more precise and near-real-time decisions, and are more than three times more likely than Aspirational organizations to focus intensely on the speed of decision making (see Figure 6).

While proven instincts and experience were once a leader's best guides, decision makers are now in a position to use an extraordinary amount of data to inform their choices. Decisions based on large amounts of data, however, can't come at the price of speed. The digital transformation of business has put pressure on organizations to become more effective

Binning:
An advanced analytics technique that analyzes the response of all respondents to a series of direct and indirect questions related to a specific subject area. Responses are then categorized into bins based on the level of interest. For this study, the bins were analyzed by sophistication groups.

FIGURE 2: Analytics Sophistication Assessment
Analytics competencies can be assessed by analyzing key attributes as they relate to the organization, including leaders' reliance on fact-based decision making.

	ASPIRATIONAL	EXPERIENCED	TRANSFORMED
Percentage of total respondents	**32%**	**45%**	**24%**
Analytic use	Basic user	Moderate user	Strong and sophisticated user
Reliance on analytics	To guide decision making in financial management and supply chain management	To guide future strategies, and increasing reliance on analytics to guide activities in marketing and operations	To guide decision making in day-to-day operations and future strategies across the organizations
Information foundation	Few standards are in place; structured, siloed data supports targeted activities	Enterprise data integration efforts are underway	Enterprise data creates integrated view of the business with an growing focus on unstructured data
Analytics tools	Primarily uses spreadsheets	Expanding portfolio of analytics tools	Comprehensive portfolio of tools to support advanced analytic modeling
Analytics skills	Ad hoc analysis is done at point-of-need; has difficulty hiring analytics talent	Analysts work in line-of-business units with growing focus on cross-training and hiring skills externally	Many are combining line-of-business units with centralized units that provide advanced skills and governance
Culture	Managers are focused on executing day-to-day activities	Open to new ideas but lacks top-line leadership and champions to support changes	Strong top-line mandate to use analytics supports a culture open to new ideas and champions who shepherd methodology and skills

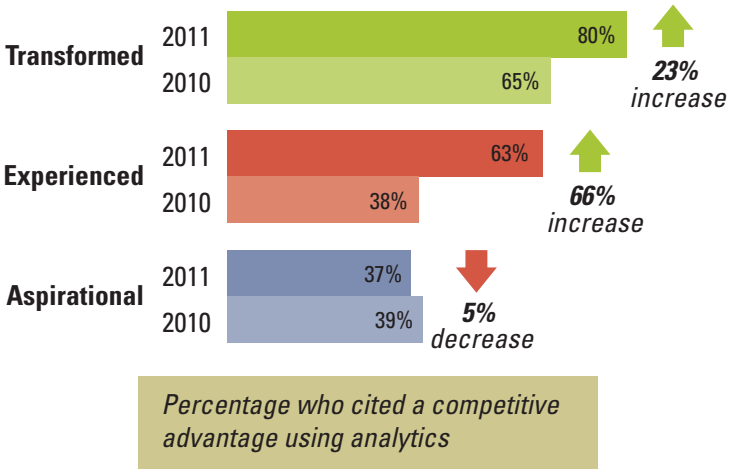


FIGURE 3: Increasing Competitive Advantage
The ability of organizations to create a competitive advantage with analytics has surged in the past 12 months.

in their reactions to market shifts and to shorten the time to market for new products and services.

Organizations focused on the speed of decision making are using analytics to manage operations and improve output levels based on real-time supply and demand management. They automate their inventory replenishment processes and optimize production by doing things such as embedding triggers that signal maintenance needs before equipment breaks down.

We found that two-thirds of Transformed organizations are relying on analytics to manage day-to-day operations, more than four times the percentage of Aspirational organizations. In some ways, using analytics for these immediate operational needs can be more difficult than crafting long-term strategies. Whereas future strategies are typically iterated over time, operational decisions require precise and accurate insights to be available much more quickly: hence, the need for analytics speed.

The speed at which some organizations operate today outpaces the processing capacity of the human brain. McKesson, for example (see case study sidebar), processes more than 2 million orders per day. To operate at this speed, McKesson has embedded algorithms into the intake process to manage orders, issue stockroom holds and process inventory replenishments without human intervention.

When a pharmacist re-orders at the end of the day, the product arrives by 10 a.m. the next day. "That's what we do," said Robert Gooby, vice president of process redesign. "We need to be outstanding in our execution, and lower costs," he said, explaining the manpower to manually keep up with that level of demand is cost prohibitive. In a $112 billion company, he noted, even a 99.9% degree of accuracy in execution can lead to the loss of more than $100 million. "We need to reduce our write-offs to the millions, not hundreds of millions. And when you're talking about that level of accuracy, you have to rely on data and analytics."

Analytics confers greater agility, acuity and certainty in today's fast-changing business environment. It allows leaders to isolate the components of complex activities and ecosystems, as well as to see and understand the dynamic interrelationships of their businesses and the markets they operate in. Detecting and analyzing trends and patterns, they can predict what is most likely to occur next. Using modeling techniques and what-if scenarios, they can even prescribe the next best action.

Managing Risk for Strategic Advantage

Propelled by the digital transformation of entire industries and the globalization of business operations, leading organizations continuously re-evaluate and re-define the strategic decisions that underpin their success. Almost 3 out of 4 Transformed organizations use analytics to guide their future strategies compared to fewer than 1 in 7 Aspirationals. These new business and operating

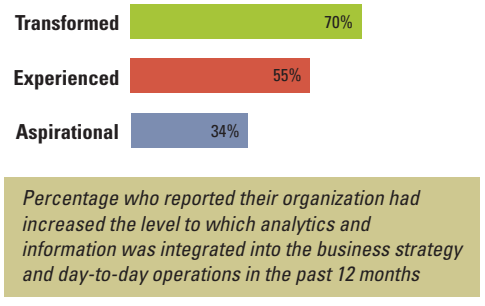


FIGURE 4: Increasing Analytic Integration Into Strategy and Operations
The rate at which Transformed and Experienced organizations have integrated analytics into their core business strategies and operations during the past year indicates that the competitive and performance gaps between these organizations and Aspirational organizations will continue to widen.

McKESSON: Efficiency at Scale

Improving process efficiency within the supply chain has been standard practice in the last several years, particularly for those organizations that operate in high-volume, low-margin businesses. McKesson, a U.S.-based pharmaceutical distribution and healthcare technology company, ranks among the largest companies in the world, and has gone farther than most in incorporating advanced analytics into a supply chain operation that processes over 2 million orders per day, and oversees more than $8 billion of inventory.

For management of in-transit inventory, McKesson has developed a supply chain model that provides a highly accurate view of its cost-to-serve – by product lines, transportation costs and even by carbon footprint. This detail provides the company with a more realistic view of how it is operating at any given point in time, said Robert Gooby, vice president of process redesign.

"But where most models are simplifications of the physical world, this one has all of the complexities and all of the data of our reality. It allows us to quantify in extreme detail the impacts of making fundamental changes to our operation," Gooby explained. "This model is not a simplification."

Another area where McKesson has applied advanced analytics is simulating and automating the physical placement of inventory within its distribution centers. The ability to assess changes in its policies and supply chains has helped it increase customer responsiveness, as well as reduce working capital. Overall, McKesson's transformation of the supply chain has reduced more than $100 million in working capital.

McKesson recognizes that analytic tools are only part of the equation. The company has invested significantly in building the analytical skills and capabilities of its entire workforce. It has used the Six Sigma program as a consistent way of thinking about, and approaching, data-related issues. The ability to weed out extraneous activity, minimize defects and reduce inventory through these structured improvement methodologies has had significant payback in terms of time, resource allocation and capital.

Just as importantly, company leaders now recognize that the company's operations are so complex they can no longer be managed without analytics. "You reach stages where your intuition is no longer enough. You have to go into detailed analysis. There are too many things, too many opportunities that can exist undetected unless you dive into the details," said Gooby.

Together, the combination of process expertise and advanced analytics capability has provided McKesson with the right formulation for supply chain success.

tactics promise competitive differentiation. But they are not without risk.

A report from the Corporate Executive Board found that strategic risks, rather than financial risks, were responsible for 68% of severe market capitalization declines between 1998 and 2009. These strategic risks include decline in demand and competitor infringements on core products, destructive price wars and margin pressure, and failure to expand new revenue sources.[5] Yet a 2011 American Productivity and Quality Center (APQC) study found that 56% of the respondents admitted they were least prepared to manage these kinds of risks.[6] Managing strategic risk calls for a better line of sight into the organization and its markets, and an ability to anticipate and act ahead of events that might derail progress.

Transformed organizations understand that in the face of growing volatility and uncertainty, they must improve their abilities to anticipate and predict. We found that 86% of Transformed organizations were highly focused on understanding the full range of organizational risks that can impact their businesses. None of the Aspirational organizations had the same level of focus (see Figure 7).

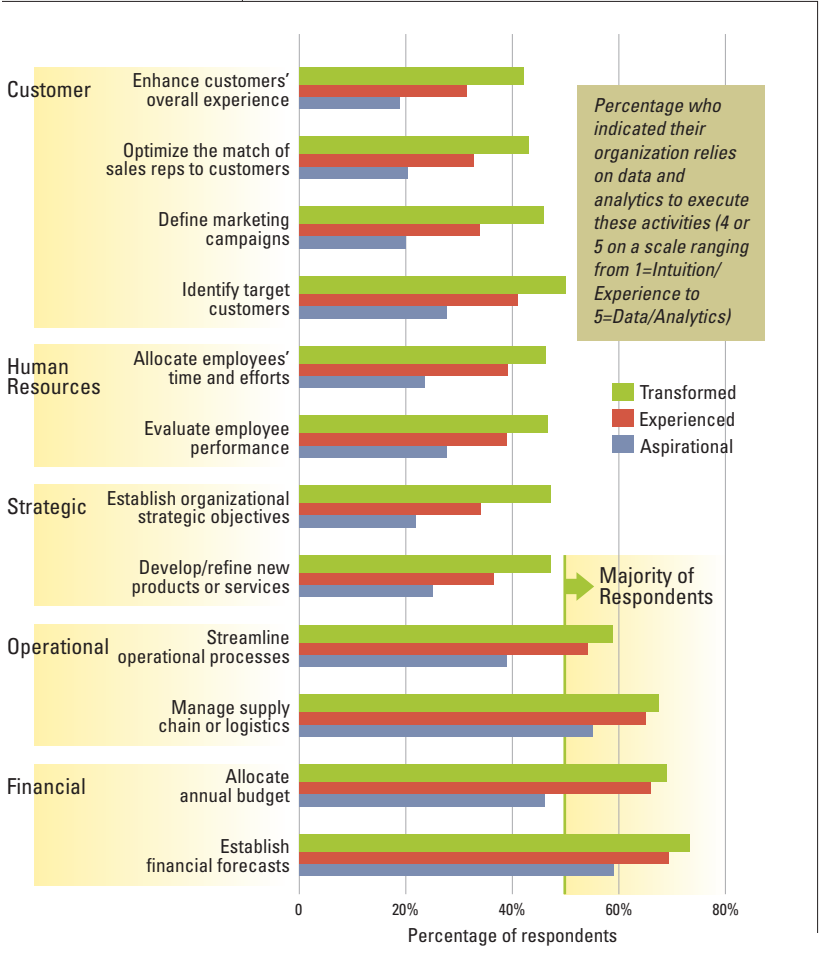
By using analytics across the enterprise to monitor, detect and anticipate events, organizations are learning to avoid unnecessary risk. Armed with real-time information, they are monitoring supply levels to help minimize disruptions. They are automating tasks — moving inventory from one location to another when a trigger is set off, for example — and using predictive analytics to anticipate needs based on dynamic variables like weather or political upheavals. The most adept are forging bold strategies, such as taking a risk-based pricing approach to introduce services and products that once would have been deemed too risky to develop. Others are anticipating regulations before they are enacted in their markets, proactively adjusting their products to get ahead of regulatory constraints.

Chevron Corp., a global energy company, understands the link between risk and performance. Each drilling miss can cost the company upward of $100 million. But the seismic surveys it uses to evaluate potential drilling sites — each up to 50 terabytes of data — take an enormous amount of time and computing power to analyze.[7] Chevron's

geologists always knew they wanted to do more, but were restrained by one of the biggest challenges organizations face in using analytics: a lack of bandwidth to focus on analytics.

In the summer of 2010, the U.S. federal government temporarily suspended all deep water drilling permits in the Gulf of Mexico, regulation that essentially shut down all oil exploration in the region for nine months. Rather than sit idle, geologists at Chevron seized the opportunity. Using recent advances in computing power and data storage capabilities, as well as refinements to their already advanced computer models, geologists were able to improve the odds of drilling a successful well at certain of its deepwater prospects to nearly 1 in 3, up from odds of 1 in 5 or worse. The intensive review led the company to change the next year's drilling schedule to explore several higher-probability wells first.[8]

FIGURE 5: Reliance on Analytics
The majority of organizations rely on analytics to make decisions about financial and operational activities, but even Transformed organizations have room to increase the use of analytics in other areas.



Engaging Customers as Individuals

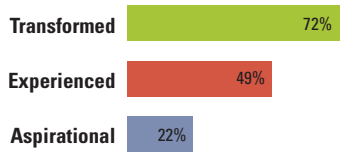
In addition to an intense focus on risk, our analysis revealed Transformed organizations pay more attention to understanding and engaging with their customers in new ways (see Figure 8). They appear to be responding more pervasively to a profound market shift, namely the explosion of new customer expectations generated in part by our digital, social and mobile marketplace. Likewise, Transformed organizations are also seizing the competitive advantage created when they understand their customers as individuals and engage them in more "authentic" or personalized ways.

Transformed organizations are learning to use customer analytics that yield something better than broad statistical averages. Instead of segmenting customers along two or three dimensions — sales and interactions, for example, or income, age and geography — they are analyzing a broader set of customer dimensions. These dimensions can include everything from transactional patterns to psychographic profiles of how customers prefer to shop, their likelihood of product purchases and their cumulative value to the company. The result is a highly individualized understanding, otherwise known as a "market of one," making authentic customer engagement possible.[9]

As one Australian respondent in the financial services industry noted, "As interactions become more electronic and distant from staff interactions, insight to customer behavior and needs is increasingly essential." Analytical insights and actions help restore the sense of a personal relationship that human tellers once provided, he said.

Transformed organizations are putting analytical insights like these into the hands of customer-facing employees. Two-thirds of them support these employees with insights to drive sales and productivity compared to one-fourth of Aspirational organizations.

Many organizations, for example, are learning to anticipate customer needs by understanding what customers actually do when they go online. Pfizer Inc., a global biopharmaceutical company, has taken this approach. "What's really changed this past year or so, as we continued to evolve to a digital interaction and multi-channel model, is the sheer



Percentage who exhibited an intense level of focus on the speed of decision making, assessed by analyzing a series of questions

FIGURE 6:
Focused on the Need for Speed in Decision Making
An intense level of focus on the speed of making decisions is one area where Transformed organizations are using analytics.

magnitude of data we collect directly about our customers. It's more activity-based," says Dr. David Kreutter, vice president of the company's U.S. Commercial Operations. "We're focusing on discerning patterns early, and using them in a predictive way." As a result, conversations initiated by representatives are tailored and approved based on these patterns, and consistent with policies to provide the information that busy physicians need and are likely to act upon.

Every organization, regardless of size, industry or market, has an opportunity to benefit from the petabytes of new data being created. The impact of this information surge, of near real-time data and unstructured content, is only beginning to be understood. But the past 12 months have already introduced some startling changes in what organizations are doing, and underscore the growing gap between those who are standing still and those with a sense of urgency to act.

Mastering Analytical Competencies

To achieve analytics sophistication, we found, organizations typically master three competencies: (1) information management, (2) analytics skills and tools and (3) data-oriented culture. We then dug deeper to define the capabilities required to achieve each one (see Figure 9).

To help organizations improve on these competencies, we analyzed the specific capabilities required for each and compared the proficiency levels of Transformed organizations, which have largely mastered the competency, with Aspirational organizations, which lack most of the key capabilities.

Competency #1: Information management

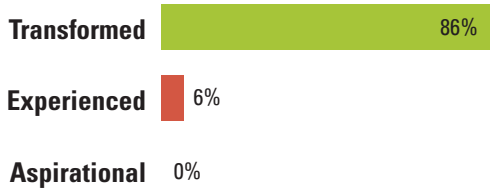
Companies with a strong information foundation are able to tackle business objectives critical to the future of the entire enterprise. Their robust data foundation makes it possible to capture, combine and use information from many sources, and disseminate it so that individuals throughout the organization, and at virtually every level, have access to it. This ability to integrate information across functional and business silos is a hallmark of Transformed organizations, which are 4.9 times more likely to do this well than the Aspirational group.

The *information management competency* involves expertise in a variety of techniques for managing data and developing a common architecture for integration, portability and storage. In a world where the quantity of data continues to rise astoundingly, standards for data quality must be established with rigorous consistency across all business units and functions. Is data being extracted from disparate data sources, both internal and external, accurately and thoroughly? Can it be used by multiple business units and functions? Is it compatible with existing processes? Can it be managed in real time, or nearly so?

This competency also involves a rigorous approach to data governance, a structured management approach designed to track strategic objectives against the allocation of analytical resources. Decision makers at every level of the organization can then be confident

Information management competency:
The use of methodologies, techniques and technologies that address data architecture, extraction, transformation, movement, storage, integration and governance of enterprise information and master data management.

FIGURE 7: Focused on Identifying and Managing Enterprise Risks
The vast majority of Transformed organizations are intensely focused on using analytics to better address enterprise risks.



Percentage who exhibited an intense level of focus on using analytics to better understand and manage enterprise risks, assessed by analyzing a series of questions

Analytics skills and tools competency:
Enhances performance by applying advanced techniques such as modeling, deep computing, simulation, data analytics and optimization to improve efficiency and guide strategies that address specific business process areas.

they have the right information to do their jobs effectively and make informed decisions using analytics to guide day-to-day operations and future strategies.

Transformed organizations effectively manage data: (percent proficient, Transformed versus Aspirational organizations)

Capability: Solid information foundation
- Integrate data effectively — 74% *versus* 15%
- Capture data effectively — 80% *versus* 29%.

Capability: Standardized data management practices
- Use a structured prioritization process for project selection — 80% *versus* 45%
- Use business rules effectively — 73% *versus* 39%.

Capability: Insights accessible and available
- Make information readily accessible to employees — 65% *versus* 21%
- Make insights readily available to all employees — 63% *versus* 16%.

Competency #2: Analytics skills and tools Organizations that deploy new skills and tools for analytics can typically answer much harder questions than their competitors. Which customers, for example, are most likely to opt into high-margin services? What will be the impact of a delivery route change on customer satisfaction and on the company's carbon footprint? How will specific shortages within the supply chain impact future delivery capabilities? Competency in *analytical skills and tools*, essential for answering key business questions, can be achieved through internal development and cross-training or external hiring and outsourcing in areas like advanced mathematical modeling, simulation and visualization.

Advanced skills and techniques also make it possible to embed analytical insights into the business so that actions can take place seamlessly and automatically. Embedded algorithms automate processes and optimize outcomes, freeing employees from routine tasks (for example, looking for customer records to process a claim or repeatedly recalculating variables to determine the best distribution route). As a result, individuals have time to apply data and insights to higher-level business questions, such as using analytics to detect fraud or finding patterns that yield new customer insights.

One key success factor in achieving mastery of this competency is the creation of analytics champions. Transformed organizations have analytics champions that initiate and guide activities by sharing their expertise to seed the use of analytics throughout the enterprise. These specialists pair expertise with a deep understanding of the business. They are able to provide guidance in getting started with analytics, as well as identifying resources for ongoing support. Without an established internal competency, it's harder for beginners to recruit needed talent.

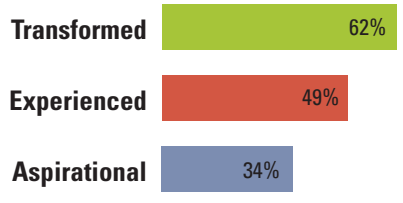
Transformed organizations understand the data: (percent proficient, Transformed versus Aspirational organizations)

Capability: Develop skills as a core discipline
- Have strong analytical skills — 78% *versus* 19%
- Have analytics champions — 59% *versus* 18%.

Capability: Enabled by a robust set of tools and solutions
- Excel at visualization tools — 74% *versus* 44%
- Excel at analytical modeling — 63% *versus* 28%.

Capability: Develop action-oriented insights
- Develop insights that can be acted upon — 75% *versus* 38%
- Use algorithms to automate and optimize processes — 68% *versus* 31%.

FIGURE 8: Focused on Customers
Transformed organizations are intensely focused on using analytics to create personalized relationships with customers.



Percentage who exhibited an intense level of focus on using analytics to better understand and connect with customers, assessed by analyzing a series of questions

MANAGE THE DATA	UNDERSTAND THE DATA	ACT ON THE DATA
Information Management	**Analytics Skills and Tools**	**Data-oriented Culture**
•Solid information foundation	•Skills developed as a core discipline	•Fact-driven leadership
•Standardized data management practices	•Enabled by a robust set of tools and solutions	•Analytics used as a strategic asset
•Insights accessible and available	•Develop action-oriented insights	•Strategy and operations guided by insights

FIGURE 9: Analytics Competencies
Organizations must master three analytics competencies to achieve competitive advantage.

Competency #3: Data-oriented culture In a *data-oriented culture*, behaviors, practices and beliefs are consistent with the principle that business decisions at every level are based on analysis of data. Leaders within organizations that have mastered this competency set an expectation that decisions must be arrived at analytically, and explain how analytics is needed to achieve their long-term vision.

Organizations with this culture are likely to excel at innovation and strategies that differentiate them from their peers (see case study sidebar, BAE Systems: A New Business Model Takes Flight). They typically benefit from a top-down mandate, and leaders clearly articulate an expectation for analytical decision making aligned to business objectives. Transformed organizations, in fact, are nearly five times more likely to do this than Aspirational organizations.

In these data-driven cultures, expectations are high. Before "giving the green light" to a new service offering or operational approach, for example, leaders ask for the analytics to support it. They express their conviction in the value of faster and more precise decisions by using analytics to guide to day-to-day operations. Employees are confident they have the information to make data-based decisions. They are encouraged to challenge the *status quo*, and follow the facts in order to innovate. Transformed organizations are more than twice as likely as Aspirational groups to be receptive to new insights.

Transformed organizations act on the data: (percent proficient, Transformed versus Aspirational organizations)

Capability: Fact-driven leadership
- Open to new ideas that challenge current practices — 77% *versus* 39%
- Individuals have data need for decisions — 63% *versus* 16%.

Capability: Strategy and operations guided by insights
- Guide future strategies with analytics — 72% *versus* 15%
- Guide day-to-day operations with analytics — 67% *versus* 15%.

Capability: Analytics is used as a strategic asset
- Use analytics as core part of business strategy and operations — 72% *versus* 15%
- Increased use of analytics in the past year — 70% *versus* 34%.

Each of these three competencies — information management, analytics skills and tools, and data-driven culture — is critical to analytics sophistication. Mastery of these competencies is how Transformed organizations manage, understand and act on data to create a competitive advantage.

The Most Distinctive Characteristics of Transformed Organizations

For organizations seeking to emulate Transformed organizations, it is useful to know which actions have the biggest impact on their level of sophistication. Analysis showed that of all the characteristics exhibited by Transformed organizations, their proficiency (represented by the percentages) in six characteristics distinguished them the most (see Figure 10).

The breadth of these leading characteristics suggests that excellence in all three analytics competencies noted in our study is fundamental to the competitive use of analytics. An organization may be able to capture, integrate and analyze its data, but it will not likely be able to act on what it finds unless it has a culture that is ready to embrace ideas that

Data-oriented culture:
A pattern of behaviors and practices by a group of people who share a belief that having, understanding and using certain kinds of data and information plays a critical role in the success of their organization.

depart from intuition or experience. For example, a leading global bank transformed its operations when it decided to analyze the impact of debit and credit card purchases on mortgage default settlements. The bank was able to use this new customer information effectively because it developed a culture that encouraged multiple departments to collaborate on managing, understanding and acting quickly on data and ideas that went above and beyond traditional approaches to lending decisions.

In using analytics as a strategic asset core to their business and operations, Transformed organizations embed data-based insights into every process — from scenarios that manage risk, to algorithms that process orders coming in through new digital channels. Going one step further, they also empower employees to act confidently and decisively in a fast-paced marketplace.

For example, a global telecommunications company faced customer attrition that was rising by double-digit percentages. It quickly succeeded in stemming these defections after using social net-

BAE SYSTEMS: A New Business Model Takes Flight

Like most organizations, BAE Systems once used analytics primarily for the basics – modeling costs and analyzing other financial information. However, when the global defense contractor moved into long-term "performance-based" contracts for its military and technical services it needed to strengthen its analytical capability. The new performance-based contracts shifted long-term risk of equipment availability from customers to BAE Systems.

To make this business model work, BAE Systems needed analytics. So five years ago, Michael Peters, Head of Business and Solution Modeling for BAE Systems, was appointed to address this issue. The business challenge, he explained, was to answer the fundamental business questions posed by the new strategy. "How do we know we can guarantee the availability of the particular system we're offering? How do we know we will make revenue on this and can actually perform against the key performance indicators in the contract, and, indeed, what should the KPIs be?" He needed to find an integrated and consistent approach to making those contract decisions so that BAE Systems understood the relationship between cost, performance, revenue and risk.

Peters put together a methodology and a small team to support the new business model. His analytics champions from across the business units showed leaders in the major programs that a common methodology, which worked for the air sector, would also work for its land and sea divisions. Now, with mature capabilities in the air sector and growing capabilities elsewhere, the common methodology is used to embed analytical capability in projects, enabling leaders to make data-driven decisions for formulating contract commitments and optimizing through-life performance.

How does a small core team, just four people and a network of subject matter experts in the business units, change the mindset within a global company to enable a shift in analytical thinking to support their major programs? From the beginning, Peters was fortunate to have two very senior sponsors. These connections bolstered credibility when his corporate team engaged business units on the relevance of business and solution modeling and ensured effective sponsorship through the allocation of resources to support the business's priority programs.

At the same time, Peters' team began developing and demonstrating a whole suite of training courses. Best practices were put into the company's Life Cycle Management processes, with techniques regularly shared at communities of practice events. After five years, the goal of all these activities remains the same: to make sure consistent "best practice" analytical capabilities for modeling solutions and business impact are embedded in BAE Systems' projects at the point of use.

The central analytics team can advise, train and initiate. But once an analytics project begins, the individual business unit takes control of the ongoing work, and funds the required expertise. Peters helps them with this transition by using his network of contacts to quickly form virtual teams of subject matter experts from across BAE Systems' global talent pool and external consultancies to meet the needs of each team, bringing the best combination of skills to that particular business's problem.

Working together, the centralized team, business unit experts and virtual teams have radically increased speed of response. "When we first modeled a performance based 'availability' project in the air sector, it took a considerable period because we had to learn, develop and adapt new techniques, and because it was such a huge program," Peters said. "After several iterations with similar projects and the reuse of models developed over the last five years, the air sector can now do its modeling and analysis relatively quickly and support to decision making now takes hours rather than weeks. Generic building blocks are created to re-use analytical know-how across projects." He pointed out, however, that reuse of models from one project to another has inherent risks unless very carefully done; hence the need for continued training, updating and sharing of expertise.

On average, Peters has found the payback on the analytics investment to be on the order of 20–50 to 1, much of it as direct savings to customers. By using analytics to take on performance risk while passing on the cost savings, BAE Systems moves closer and closer to its customers, and farther and farther away from competitors.

work analysis to re-segment its portfolio, then comparing segment profitability to create customized solutions for use by call center employees. Only by providing data and insight to employees across the enterprise are organizations able to benefit from fresh perspectives of customers and operations.

Two Paths to Transformation

While Transformed organizations serve as benchmarks for establishing analytics competencies, almost half of the organizations we surveyed are at the Experienced level, somewhere between the most basic and the most advanced segments.[10] We took a closer look at this large transitional segment to better understand those organizations (see Figure 11).

We found that organizations, after starting, diverge in their approach to analytics. We characterize the alternative paths as Specialized or Collaborative, based on the way analytics is leveraged and deployed:

The Specialized path. Deep analytics expertise is developed within lines of business or specific functions using a wide array of analytical skills and techniques. Analytics is used to improve specific business metrics. Slightly more than half of the Experienced organizations took this route.

The Collaborative path. An information platform is created, enabling insights to be developed and shared across lines of business. Analytics is used to improve enterprise objectives. Slightly fewer than half of Experienced organizations took this route.

See Figure 12 for a comparison of the relative proficiency levels these paths exhibit for each of the three analytics competencies.

The Specialized path can lead to well-defined gains

With impetus coming from within lines of business, organizations on the Specialized path pragmatically focus on improving their operational metrics while growing revenue and increasing efficiency. They use their analytical prowess in advanced skills and techniques, such as predictive modeling, to focus on orchestrating marketing campaigns and finding the best match between individual customers and sales representatives.

In addition to the revenue gains resulting from these programs, the Specialized path takes organizations through a wide range of efficiencies and cost savings. Predictive scenarios and simulations, for example, make it possible to understand how changes caused by internal strategies and external forces will impact individual units in terms of resource allocations, revenue growth and operating costs. We found that organizations on this path increased their use of analytics over the last 12 months, but rarely as a core part of the overall business strategy.

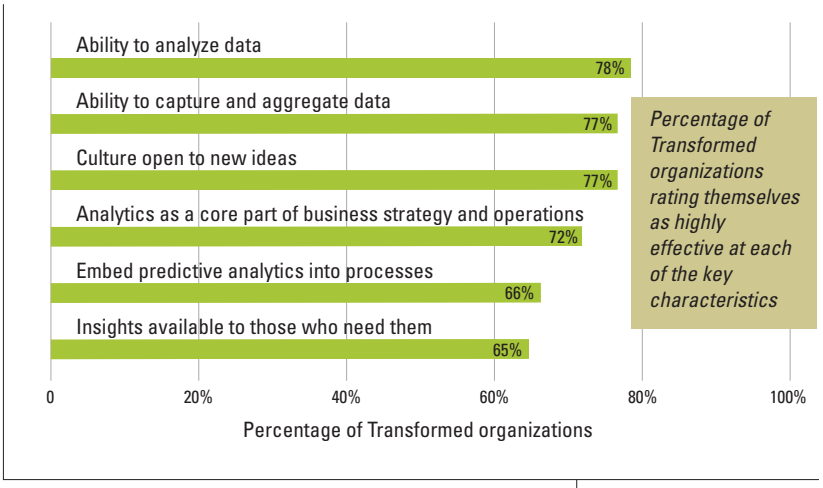


FIGURE 10: Key Characteristics of a Transformed Organization
Transformed organizations rate themselves as highly effective at each of the key characteristics, represented by the percentages.

The Specialized path and the three competencies

1 **Information management is siloed.** Because advanced tools and techniques abound here, organizations on the Specialized path may well be the first to meet today's newest data challenges: finding ways to mine real-time information from the Internet and unstructured content from e-mails, interaction logs and other internal documents. However, integrating and disseminating data across the enterprise is a hurdle they have yet to overcome. Functional and line-of-business leaders, for example, retain control of "their" information and may determine data definitions unilaterally.

On the Specialized path, identification and selection of projects is made within business units, often by using process-driven problem-solving methodologies like Six Sigma. Analysis takes place where and when insights are needed, or by analytics departments within the business lines. While this approach serves individual business lines well, it can create or deepen barriers to developing the information management competency, because

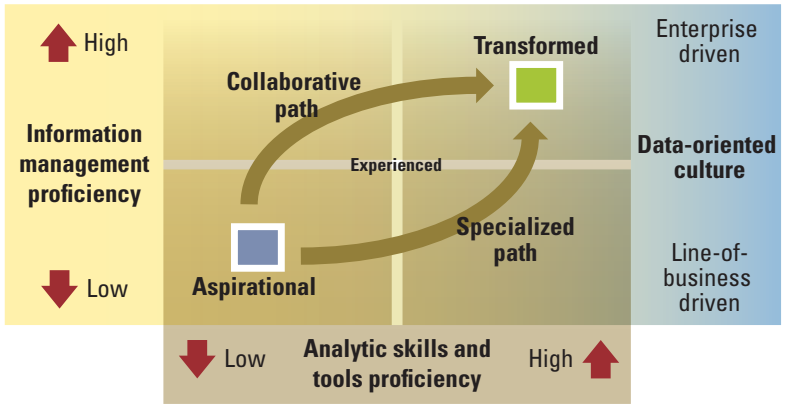


FIGURE 11: Paths to Transformation
Experienced organizations take either a data-centric enterprise-driven path or a skills-and-tools centric path on their journey toward analytic transformation.

collaboration for effectively integrating and sharing enterprise data is insufficient or lacking.

2 **Improvement of analytical skills and tools is a passion.** On this path, organizations are eager to keep up with new technical advances and apply them to the data they have on hand. To do that, they develop and cross-train a strong talent pool that can use a wide variety of analytical approaches to understand not just what's happening, but why. Within their individual lines of business, these organizations have the capability to spot and analyze trends, patterns and anomalies.

Passionate about a wide range of analytical tools, organizations on this path embark on a journey that takes them far beyond spreadsheets and basic visualization techniques. For budget planning and resource allocation, what-if scenarios are used to predict threats and opportunities. Algorithms automate tasks ranging from mundane report development to complex data analysis. And a wide range of discrete business processes, such as automatic inventory replenishment or call center assignments, are optimized by embedded algorithms.

3 **Data-oriented culture will require extra momentum.** On the Specialized path, organizations are open to exploring new analytical techniques and applying them liberally within discrete areas of the business. However, when it comes to taking an enterprise approach, most respondents considered the organizational challenges extremely difficult to confront and resolve. Political constraints and a lack of cohesion within the organization can be major barriers to integrating data and using analytics for enterprisewide objectives.

Unless these hurdles are overcome, the Specialized path to analytical transformation may reach a point of diminishing returns as siloed programs impede establishment of analytics as a core enabler of business strategy and operations. Either a strong push from senior leaders or grassroots momentum from individuals at many levels will likely be required to create a culture that is open to new ideas and ready to move forward on the basis of fact-based insights.

The Collaborative Path Crosses Organizational Boundaries

By contrast, organizations taking the Collaborative path use analytics more broadly and effectively. Unlike Specialized organizations, which typically have pockets of excellence in one area or another, Collaborative organizations achieve consistent levels of effectiveness across functions. Like a rising tide that lifts all boats, analytics in Collaborative organizations spreads beyond finance and operations to bring capabilities to the same levels across unit and function — from marketing and sales to human resources to strategy and product development.

By connecting information and programs across silos, organizations can create an agenda that makes analytics core to operations and business strategy. In doing so, the Collaborative path creates an appetite for new ways of understanding value and competitive advantage that permeates the entire organization (see case study sidebar, Pfizer: Next Generation Sales Insights Through Analytics).

On the Collaborative path, organizations draw on information from many functions and departments. They develop ways to improve the customer's experience and overall relationship with the organization. Consequently, they may be better positioned to create seamless one-on-one interactions with customers across channels and over time. Not surprisingly, they are twice as likely as organizations taking the Specialized path to provide customer-facing employees with access to data and insights.

The Collaborative path and the three competencies

1 Information management is an enterprise endeavor. On the Collaborative path, organizations gain valuable ground by applying themselves to the integration of disparate data into an enterprise analytics platform.

This cross-unit endeavor is enabled by a willingness to share and accept data and insights from other parts of the organization. The enterprise moves toward consistent data definitions, data management standards and shared responsibility for analytics. Governance and information quality become leading concerns, and the organization works its way through "turf wars" that almost certainly will accompany the creation of an information management foundation for the entire enterprise.

2 Analytics skills and tools are not fully developed. Despite comparative weakness in analytics skills and tools, organizations on the Collaborative path are adept at using visualization techniques. Data visualization and departmental dashboards provide snapshot views of performance. Scenarios are developed to "paint a picture" showing how changes in strategies and processes can impact the business. These user-friendly approaches help individuals who are less accustomed to working with large quantities of data interact with information and make analytically based decisions.

3 A data-oriented culture has emerged. Organizations on the Collaborative path integrate data from silos and then disseminate the insights across the enterprise. They are almost three times more likely to use analytics to guide future strategies than Specialized organizations, and twice as likely to rely on analytics for day-to-day operations.

Collaborative organizations have cultures where individuals are prepared to challenge current ideas and practices on the basis of new information. To support this culture, they are twice as likely to provide insights to anyone in the organization who needs them. As a result, they've democratized the access to data and insights, empowering employees and executives alike. These organizations enjoy executive-level endorsement for the broad use of analytics to manage day-to-day operations and shape future strategies.

Understanding the Path Ahead

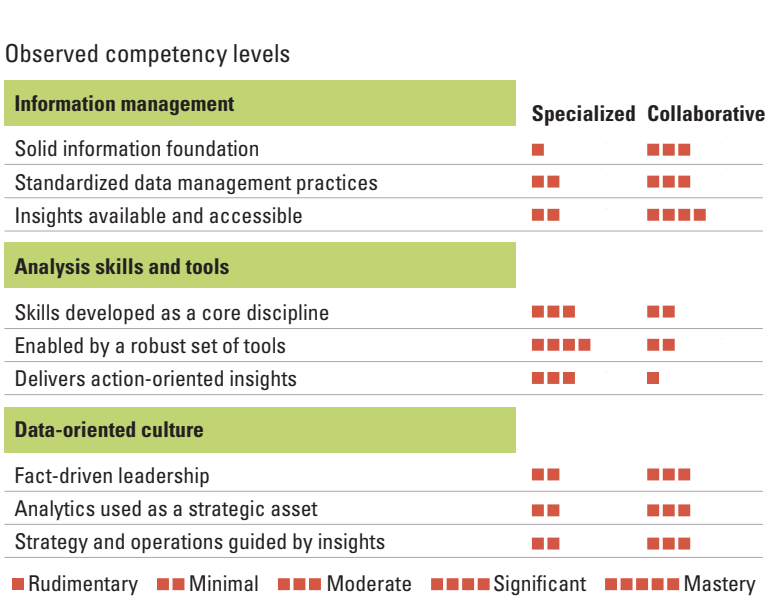
Ideally, as organizations begin their transformations to analytical sophistication, they start building a solid information foundation and acquiring analytics capabilities simultaneously. In reality, we find that they tend to do one or the other, based on their existing culture, organizational structure and skills. The two paths observed in our analysis represent reasonable and pragmatic courses of action based on the strengths and weaknesses of individual organizations.

A propensity toward acquiring new analytical techniques and refining skills steers some organizations toward the Specialized path, with momentum for analytics coming from individual departments or functions. Skeptics elsewhere can then be converted when urgent business issues are addressed and the value of analytics is demonstrated.

Where the culture responds well to enterprise initiative and innovation, organizations will lean toward the Collaborative path. Targeting analytics for key strategic objectives creates support for shared investments and consensus-based decision making. As a result, analytics will be used sooner rather than later for strategic objectives aimed at increasing competitive advantage.

Each path poses different challenges. Organizational issues may be particularly difficult on the Specialized path, where solid leadership consensus

FIGURE 12: Observed Competency Levels
Each path to transformation has unique strengths and weaknesses in the three competencies, which pinpoint areas for improvement and investment.



PFIZER: Next Generation Sales Insights Through Analytics

After years of exclusive sales from its Lipitor patent, which delivered almost 20% of its annual U.S. revenue in 2010, the patent's looming loss made capital allocation a key priority at Pfizer Inc., a global biopharmaceutical company.[i] "From a business challenge perspective, taking billions of dollars out of a corporation in one fell swoop is a little bit daunting," said Dr. David Kreutter, vice president of U.S. commercial operations. He believes the new business environment makes analytics more critical than ever before, because each expenditure must be rigorously evaluated for its contribution to company strategy.

With scientific research at the core of its business, the company has no lack of skills in areas of quantitative analysis. Yet too often, Pfizer's business leaders have been able to pick and choose which decisions should be guided by data. Those days of "cherry picking" are going away, Kreutter says, because without the multi-billion-dollar operating buffer of past years, the stakes are simply too high.

Kreutter believes analytics can play a new role in a leaner company by enabling a "frame shift" based on understanding the interplay between strategy and execution. Use of market data remains foundational. Generally, every major pharmaceutical company knows which products doctors are prescribing. But it takes six to eight weeks before this data arrives, a time lag that limits the usefulness of the data.

Next-generation insights, says Kreutter, will be gleaned from streams of data uploaded daily by representatives in the field. Armed with tablet devices, Pfizer reps customize information using interactive presentations and then synchronize data obtained from their sales meetings at the end of every day. "We're able to see things like the order of presentations, the messages that were delivered, the responses, and how engaging each physician found it," explained Kreutter. "Our master customer dataset has all that click-stream data for each representative and each doctor they met, nearly in real-time compared to our syndicated data."

The value of the interactive data lies in linking behaviors — what sales content is used by reps, how physicians respond to it and whether there is a corresponding uptick in prescriptions. Business analysts will then be able to determine whether, for example, a drop in prescribing by that physician is tied to flawed execution (the rep failed to provide the most appropriate approved information available to the physician at the right time) or the strategy is flawed (if the approved product information delivered according to plan did not meet the physician's needs or preferences). As presentations of all kinds are tracked against actual prescriptions in the days and weeks ahead, strategy and execution can be finely calibrated. New data-based insights can be efficiently reviewed, approved and delivered to reps along with the daily synchronization of data between the field and headquarters.

How will Pfizer stay abreast and ahead of health care industry changes, including new prescribing dynamics brought on by physician participation in new types of health care organizations? Competitive advantage, Kreutter believes, will to a great degree come from hiring and motivating an analytic talent pool on par with those in more analytically sophisticated industries, such as consumer goods and financial services. Most importantly, this talent needs to be outfitted with context and knowledge about Pfizer's particular business challenges and compliance requirements. At that point, says Kreutter, "The question isn't how much money do we spend on data and analytics; it's how much value are we getting from them?"

is needed to integrate siloed data. In addition, organizations where capabilities are developed largely from the ground up are likely to progress unevenly until analytics is embraced as a leadership mandate.

An instructive finding supports this concern about the Specialized path. Overall, respondents were nearly twice as likely to find organizational challenges difficult to resolve compared to technology challenges (see Figure 13). Those on the Specialized path will need to overcome organizational difficulties eventually while collaborative organizations, having already made inroads on culture and consensus, may have an easier journey in front of them.

The main challenge on the Collaborative path? Because of their ongoing focus on integrated data management, these organizations may be inclined to be so persistent in getting data to its "ideal state" that they wait to acquire the tools and skills to analyze it.

Thus, existing conditions are likely to determine which path is taken by a particular organization. To keep moving forward with confidence, however, every organization needs to thoroughly understand its analytics strengths and weaknesses, as well as the terrain ahead.

Moving Forward with Analytics

In this study, we have laid out three competencies based on our analysis of how Aspirational, Experienced and Transformed organizations use analytics, and what they were able to achieve competitively. The challenge, however, is typically not in finding the business case; it's in identifying the starting point and creating a plan. To help organizations begin and reach their goals, we make the following suggestions based on our experience with a broad spectrum of organizations in multiple industries:

Recommendation 1: Assess your analytics sophistication
Recommendation 2: Improve your analytics competencies
Recommendation 3: Use an information agenda to connect your path to your competencies.

Recommendation 1: Assess your analytics sophistication How close is your reality to the vision of your organization transformed by analytics? Consider whether some functions or some lines of business are farther along than others, and bring people together to share aspirations and concerns as they relate to analytics. Explore the big business challenges that can be addressed by analytics and evaluate together your organization's readiness to address them. Figures 1 and 12 contain information to help you assess your level of analytics sophistication and understand next steps.

Aspirational — start with the most important metrics. You may have a vision for analytics, but have not made it part of an information agenda, with an analytics strategy that is measurable and can be acted upon. Data management is *ad hoc*, not part of a governance system, while spreadsheets and standardized reports capture all your organization's analytical activity. Business leaders across levels should launch efforts to select business challenges that can be addressed analytically and set specific objectives for doing so. Dashboards and scorecards should be used to monitor performance against these targets.

Experienced — understand your path. If you have made some progress toward analytical transformation, determine which path you have taken — Specialized or Collaborative? Use Figure 12 to assess your organization's strengths and weaknesses. Play to your strengths but remediate your weaknesses. If you're pursuing analytics projects but avoiding internal conflicts over data standards, find out how other organizations have negotiated these shoals. If you're putting all of your resources into establishing or meeting enterprise data standards, start developing analytics skills and tools to reap value from the information you have. Get support for acquiring tools and skills that will bring state-of-the-art analytical capabilities into your organization.

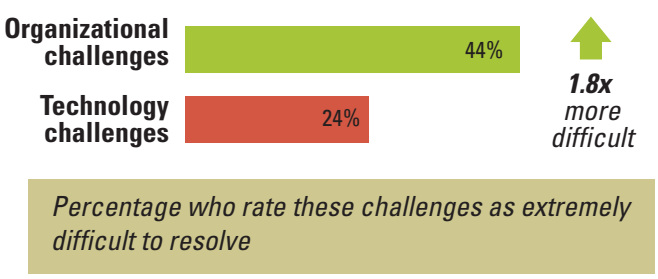


FIGURE 13: Respondents Who Rate These Challenges as Extremely Difficult to Resolve
Changing the way people behave and interact with one another within an organization poses a more difficult challenge than changing their tools or technologies.

Transformed — look ahead. If your organization already has an integrated information platform as well as a robust set of tools and talent, you probably have a culture where information is accessible, abundant and constantly scrutinized for possible actions. The need here will be to continuously refresh your information agenda and stay attuned to unexpected challenges: new competitors and customer expectations; emerging digital business models; and the capture of big data, much of it unstructured and rapidly streaming through a digitally connected world. Another key is to create consistency in the level of analytics use and skills with your organization by targeting areas that may be lagging behind.

Recommendation 2: Improve your analytics competencies Having assessed your path, focus on the capabilities within each competency to drive improvements. If you're on the Collaborative path, you will need to work more on developing analytics skills and tools. If you are on the Specialized path, you will need to develop a strong information management platform and orient your culture to the use of data. On either path, set regular reviews for assessing progress in all competencies.

Information management. A strong information foundation makes high-quality information accessible to all who need it. What steps are you taking to help ensure that employees have the data and tools to do their jobs and make decisions that support the business? Determine what's holding people back from using available information. Is it too difficult to digest? Too old to be useful? Too inconsistent? Do sources need to be more transparent? Look also at levels of segmentation — are they too broad or too narrow, and are users free to redefine them?

Questions to consider for improving information management competencies

- What do you need to do to have everyone in your organization agree on the definition of key data such as "customer" or "on-time delivery"?
- How can you make sure everyone trusts their most critical data? Is it traceable?
- What can you do to increase collaboration among executives so they can support integrated and shared data?

Analytics skills and tools. Analytics specialists may have advanced skills and tools, but requirements and priorities are best determined by business specialists. Real competence in this area requires a partnership between those who excel at analytics and those who understand business implications. How can these partnerships be improved? Do the statisticians understand your business? Do business leaders appreciate the value the specialists bring? And are skills being transferred to local analysts to expand the capacity for future analytics efforts?

Questions to consider for improving analytics skills and tools

- How effective is your organization at attracting and developing the analytics skills it needs?
- What incentives are in place for analytical talent to mentor others?
- How prepared is your organization to integrate emerging analytical tools into the business?

Data-oriented culture. Insights gained through analytics can create a repository of strategic assets as valuable as your databases. But if those insights aren't used, their value is never realized. Does your organization encourage employees to come forward with new ideas? And how likely are any of those ideas to be adopted? What happens when new ideas challenge current assumptions about the market, or how the business operates? And are key executives setting the example by visibly using facts derived from analytics to make key decisions?

Questions to consider for building a data-oriented culture

- How structured is your process for applying analytics to business strategy?
- Are insights about customers, including history and value to the organization, shared with everyone who interacts with them?
- Is analytics consistently guiding both strategy and operations?

The amount you invest in each of these competencies will depend upon your level of sophistication. But mastery of all three is needed to achieve sustainable competitive advantage.

Recommendation 3: Use an information agenda to connect your path to your competencies Applying Recommendations 1 and 2 will enable you to assess your current level of analytics sophistication and develop a plan to improve your competencies. Recommendation 3, using an information agenda, puts you in the best position to get started and maintain momentum by aligning information technology to analytics strategy. An information agenda provides the balancing mechanism for acquiring and developing capabilities across all three competencies and across the enterprise.

The information agenda contains four interconnected areas: business strategies and objectives; project roadmaps; information infrastructure; and governance of data management and tools. It begins with the articulation of business strategies and objectives to anchor all analytics initiatives in business value. From these strategies, it is imperative to identify the most important projects and initiatives, which may include: cross selling, cost reduction, increasing customer loyalty, fraud reduction and assessing risk in light of operational metrics.

These mandated initiatives form the basis of a multi-phased, multi-year plan to realize the business benefits derived through analytics. Technology plans must be thoroughly assessed against the business and analytics plan to determine infrastructure gaps. Existing IT capabilities must be fully vetted in light of required analytics capabilities. With a fully solidified plan from both business and IT, executives across the enterprise can make informed decisions on how to optimize allocation of scarce resources.

In developing their information agendas, organizations often find these questions useful to consider:

- What are the most pressing business priorities?
- How can analytics make a difference?

- What infrastructure is needed for analytics to be effective?
- How can our organization and culture make the most of our investments in analytics?

Rigorous review of project delivery progress and business contribution is paramount. In addition to an aligned business and IT plan, having a business-driven enterprise governance of data, information and analytic tools is an essential component of the information agenda. Governance often begins by establishing specific roles to help ensure data quality for analytics initiatives. A collaborative group of business leaders needs to be convened to provide sustained governance with key responsibilities that include setting enterprisewide data standards, prioritizing and selecting analytics projects, and monitoring measurements.

Most importantly, an information agenda is essential for providing benchmarks and outcomes to evaluate progress in developing competencies at each step along the way. It helps determine whether IT is supporting the business strategy effectively, and whether that strategy is understandable to those who must implement it. It identifies the analytical techniques needed to implement specific programs and defines metrics for assessing the outcome of those efforts. Just as importantly, it encompasses governance structures — business rules and standards — that support, rather than hinder, the ability to manage information in its various forms. By tying these elements together, the information agenda can provide a solid organizational foundation for achieving enduring competitive advantage with analytics.

Conclusion

The 2011 contest between Watson and previous *Jeopardy*! champions was more than a game. Contestants also had opportunities to wager their "earnings" based on confidence in their own capabilities, and their assessment of the competition. In the real world, too, competitors have everything to gain or lose. In today's world, lack of an adequate analytics strategy is increasingly likely to put their future in jeopardy.

Our previous study showed the emerging gap between organizations that use analytics for competitive advantage and those that do not. This year, we see a divide that is even larger, and is rapidly widening. Taking advantage of new business models and new data, unexpected competitors are emerging and familiar customers are demanding unprecedented attention. Disruptions like these create a widening set of opportunities for players at every level. With a full range of analytics capabilities governed by an integrated analytics strategy, organizations are better positioned to widen, or narrow, the distance between themselves and competitors to their own best advantage.

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For more information about this study, The New Intelligent Enterprise initiative and additional interviews, you may contact *MIT Sloan Management* at smrfeedback@mit.edu or visit the MIT SMR Web site: **sloanreview.mit.edu/tnie**

For more information about this study, you may contact the IBM Institute for Business Value at iibv@us.ibm.com, or visit the IBM IBV Web site: **ibm.com/gbs/bao**

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